



**STATE OF HAWAII**  
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In reply, please refer to:  
File: EHA/HEER Office

**TO:** Interested Parties 2006-519-RB

**FROM:** Roger Brewer, Ph.D,  
Environmental Risk Assessment  
Hazard Evaluation and Emergency Response Office

**DATE:** August 28, 2006

**SUBJECT:** Updates to the May 2005 Environmental Action Levels ("EALs") Technical Document

The Hazard Evaluation and Emergency Response (HEER) office has prepared an update to the May 2005 edition of the technical document *Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater*. Thirty-three chemicals were added to the to the EAL lookup tables (various pesticides, explosive-related compounds and ethanol). Relatively minor edits were also made to EALs for six other chemicals. A summary of the updates is provided below and included as Appendix 11 of the EAL document.

Of particular significance are EALs for several pesticides that may be present in former agricultural areas (ametryn, atrazine, dalapon, etc.). As noted in the detailed lookup tables and the EAL Surfer, soil leaching and groundwater protection concerns may outweigh direct-exposure concerns for many of these chemicals (i.e., action levels for leaching concerns are lower than action levels for direct-exposure concerns). Both leaching and direct-exposure concerns must be assessed at sites contaminated with these chemicals. HDOH is currently preparing information on the use of lab-based leaching methods to better understand this concern on a site-by-site basis (e.g., development of site-specific contaminant sorption factors using the Synthetic Precipitation Leaching Procedure or SPLP test).

The EAL document will be revised and updated on a regular basis. Comments and suggestions from the general public are welcome at any time. Updates will be posted to the HDOH EAL website and notification sent to persons on the EAL mailing list. Workshops to present and discuss the EALs will also be held periodically. To provide comments or be included on the mailing list for updates and workshop announcements, please contact:

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## Updates to May 2005 HDOH EAL Document (August 2006)

- Bis(2-ethylhexyl)phthalate and Pentachlorophenol: Leaching based soil action levels corrected (SESOIL algorithm used due to high solubility even though koc value exceeds 30,000 cm<sup>3</sup>/gm; refer to Table E-1 in Appendix 1);
- Boron: Reference to USDOE aquatic toxicity goal dropped (low confidence and potentially below background in groundwater and surface water);
- Chlordane: Term “Chlordane” revised to more appropriately reflect “Technical Chlordane”;
- Mercury: Oral reference dose updated to reflect revised 2004 USEPA IX PRGs;
- Vinyl Chloride: Single cancer slope factor used for (based on residential CSF presented in USEPA Region IX Preliminary Remediation Goals document (USEPA 2004);
- Appendix 1, Table 3-da corrected (action levels for some chemicals mixed up, other tables not affected);
- Thirty-three chemicals added:

### **PETROLEUM-RELATED COMPOUNDS:**

ETHANOL

### **PESTICIDES:**

AMETRYN

ATRAZINE

DALAPON

DICHLOROPHENOXYACETIC ACID (2,4-D)

DIURON

GLYPHOSATE

HEXAZINONE

ISOPHORONE

PROPICONAZOLE

SIMAZINE

TERBACIL

TETRACHLOROPHENOL, 2,3,4,6-

TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)

TRICHLOROPROPANE, 1,2,3-

TRICHLOROPROPENE, 1,2,3-

TRIFLURALIN

### **EXPLOSIVES-RELATED COMPOUNDS:**

AMINO,2- DINITROTOLUENE,3,6-

AMINO,4- DINITROTOLUENE,2,6-

CYCLO-1,3,5-TRIMETHYLENE-2,4,6-TRINITRAMINE (RDX)

DINITROBENZENE, 1,3-

DINITROTOLUENE, 2,4- (2,4-DNT)

DINITROTOLUENE, 2,6- (2,6-DNT)

NITROBENZENE

NITROGLYCERIN

NITROTOLUENE, 2-

NITROTOLUENE, 3-

NITROTOLUENE, 4-

PENTAERYTHRITOLTETRANITRATE (PETN)

TETRANITRO-1,3,5,7-TETRAAZOCYCLOOCTANE (HMX)

TRINITROPHENYLMETHYLNITRAMINE, 2,4,6- (TETRYL)

TRINITROTOLUENE, 1,3,5-

TRINITROTOLUENE, 2,4,6- (TNT)